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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,938	11/14/2003	Daxing Ren	015290-794	7427
21839	7590	10/23/2006	EXAMINER	
BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			DEO, DUY VU NGUYEN	
			ART UNIT	PAPER NUMBER
			1765	

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/706,938

Applicant(s)

REN, DAXING

Examiner

Duy-Vu N. Deo

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-14 and 29-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-14, 29-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/8/06, 8/15/06</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11-14, 29-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art and Wicker et al. (US 6,464,843).

Admitted prior art describes silicon carbide components, such as baffle plate, confinement ring, and edge ring, having free-carbon in graphite form in the interior, and on the exposed surface due to incomplete conversion of the carbon to make silicon carbon during the manufacturing process, such as ones from Poco Graphite, Inc. of Decatur, Texas (paragraphs [0003,0004,0023,0024]). Unlike claimed invention, admitted prior art doesn't describe the silicon carbide components are substantially free of the free-carbon at least on the exposed surface (after being treated). However, these components later go through different process such as oxygen cleaning steps as taught by Wicker (col. 7, line 14-30). And this oxygen cleaning steps would provide these silicon carbide components that are substantially free of the free-carbon at least on the exposed surface. It is applicant's burden to show facts that applied prior art's product is not the same as that of the claimed product.

Referring to claims 13, 14, 31, 39, these silicon carbide components includes baffle plates, edge rings, focus rings, plasma confinement rings, chamber liners,

Art Unit: 1765

electrodes, wafer passage inserts, windows, plasma screens, and chamber walls that are parts of a semiconductor apparatus, which would include etching apparatus (paragraphs [0002,0003]).

Referring to claims 29, 30, 37, 38, 44, prior art above describes the silicon carbide components that are produced by a different process. These products are made as parts of an apparatus. Prior art above doesn't describe the silicon carbide components are treated before they are installed in the apparatus. However, these are product claims. The products are independent of how they are made since a product can be made by different processes. It is applicant's burden to show facts that applied prior art's product would not produce the same claimed product.

Referring to claims 32, 40, and 43, admitted prior art shows that such conventional method typically creates carbon clusters having a size of 20-200 um (paragraphs [0026,0027] of the specification).

Referring to claims 34, 42, Wicker teaches that the Sic baffle can be formed to a desired thickness. Therefore, it is obvious for one skilled in the art to use a baffle with any desired thickness including claimed  $\frac{1}{4}$  inch as long as it can be used to form an etching apparatus.

### ***Response to Amendment***

Referring to applicant's remark that the silicon carbide components having been made by a graphite conversion process that results in free-carbon in graphite form in the interior and on the exposed surface, paragraphs [0003,0004,0023,0024] describe

Art Unit: 1765

that this process is a conventional process to form silicon carbide components produced by Poco Graphite, Inc. of Decatur, Texas.

Referring to applicant's remark about the silicon carbide is treated to have substantially to remove free-carbon on the exposed surface, the oxygen cleaning process described by Wicker above would provide silicon carbide components that is substantially free of free-carbon on the exposed surface. Even though applied prior art above doesn't describe the silicon carbide components are treated before they are installed in the apparatus. However, these are product claims. The products are independent of how they are made since a product can be made by different processes. It is applicant's burden to show facts that applied prior art's product would not produce the same claimed product.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duy-Vu N. Deo whose telephone number is 571-272-1462. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1765

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Duy-Vu N Deo  
Primary Examiner  
Art Unit 1765

10/19/06

